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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/975,168
Filing Date: October 11, 2001
Appellant(s): WEAVER ET AL.

Andrew T. Spence
For Appellant

EXAMINER'S ANSWER

MAILED
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This is in response to the appeal brief filed 11 September 2006 appealing from the Office action mailed 11 January 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: claims 21-26 currently stand rejected under

35 U.S.C. § 103(a) as being unpatentable over Sharma et al. (US Patent No. 5717795) in view of Kartalopoulos (*Introduction to DWDM Technology: Data In A Rainbow*; S.V. Kartalopoulos; IEEE Press, 2000; pages 41 and 42), and further in view of Polczynski (US Patent No. 4089584).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5717795	Sharma et al.	2-1998
4089584	Polczynski	5-1978

Introduction to DWDM Technology: Data In A Rainbow; S.V. Kartalopoulos; IEEE Press, 2000; pages 37, 41, 42 and 194.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. (US Patent No. 5717795) in view of Kartalopoulos ("Introduction to DWDM Technology: Data In A Rainbow"; S.V. Kartalopoulos; IEEE Press, 2000; pages 41 and 42).

Regarding claim 1, Sharma et al. disclose a closed-loop optical network system (fig. 15 and col. 8, line 59 to col. 9, line 56) comprising: a network bus for transmitting a plurality of optical signals (fig. 15, element B1); a multiplexer capable of wavelength division multiplexing a plurality of input optical signals for transmission via the network bus, wherein the plurality of input optical signals have a plurality of predetermined optical wavelengths (fig. 15, elements A17 and lambdas 1-n and 1'-n'); a plurality of remote devices optically connected to the network bus, wherein said plurality of remote devices are capable of reading optical signals having respective predefined optical wavelengths off of the network bus (fig. 15, elements C1-Cn), and wherein said plurality of remote devices are further capable of writing optical signals having respective predefined optical wavelengths onto the network bus (col. 8, line 63 to col. 9, line 11); and a demultiplexer capable of receiving optical signals having at least one of the plurality of predetermined optical wavelengths from the network bus and thereafter wavelength division demultiplexing the optical signals into a plurality of output optical signals (fig. 15, elements A11 and lambdas 1-n). Sharma et al. do not explicitly disclose the fiber type of the fig. 15 embodiment; however Sharma et al. do disclose multi-mode transmission in another embodiment (col. 6, lines 40-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multi-mode laser source and filter arrangement disclosed by Sharma et al. in the fig. 15 embodiment as well, since a multi-mode laser will be more affordable than a single-mode laser source. Kartalopoulos discloses that multimode fiber has the advantage of being easy to splice and to couple light into (page 42). It would have been obvious to one of ordinary skill in the art at the time of the invention to use multimode fiber in the

system of Sharma et al. since it is easy to splice and to couple light into, as taught by Kartalopoulos.

Regarding claim 2, the combination of Sharma et al. and Kartalopoulos discloses a closed-loop optical network system according to claim 1 further comprising a plurality of optical sources capable of generating the plurality of input optical signals from a plurality of input electrical signals (Sharma et al.: fig. 15, elements A16 and A14).

Regarding claim 3, the combination of Sharma et al. and Kartalopoulos discloses a closed-loop optical network system according to claim 2 further comprising a network controller for controlling communications on the network bus, wherein said network controller is capable of transmitting the plurality of input electrical signals to said plurality of optical sources (fig. 15, element A13).

Regarding claim 4, the combination of Sharma et al. and Kartalopoulos discloses a closed-loop optical network system according to claim 1 further comprising a plurality of optical detectors capable of receiving the plurality of output optical signals from said demultiplexer and thereafter generating a plurality of output electrical signals from the plurality of output optical signals (Sharma et al.: fig. 15, elements A12).

Regarding claim 5, the combination of Sharma et al. and Kartalopoulos discloses a closed-loop optical network system according to claim 4, wherein said plurality of optical detectors are capable of transmitting the plurality of output electrical signals to a network controller (Sharma et al.: fig. 15, elements A12 and A13).

Regarding claim 6, the combination of Sharma et al. and Kartalopoulos discloses a closed-loop optical network system according to claim 1, wherein said plurality of remote devices read and write optical signals having respective predefined optical wavelengths that are

at least subsets of the plurality of predetermined optical wavelengths of the optical input signals (Sharma et al.: fig. 15, lambdas 1-n and 1'-n' and col. 8, line 63 to col. 9, line 11).

Regarding claim 7, Sharma et al. disclose a node for transmitting input optical signals to and receiving output optical signals from a plurality of remote devices via a fiber network bus in a closed-loop optical network system (fig. 15, element A1 and col. 8, line 59 to col. 9, line 56), said node comprising: a plurality of optical sources capable of generating the plurality of input optical signals from a plurality of input electrical signals (fig. 15, elements A16 and A14); a multiplexer capable of wavelength division multiplexing a plurality of input optical signals for transmission via the network bus, wherein the plurality of input optical signals have a plurality of predetermined optical wavelengths that are selectively received by respective remote devices (fig. 15, elements A17 and A15); and a demultiplexer capable of receiving optical signals having at least one of the plurality of predetermined optical wavelengths from the network bus and thereafter wavelength division demultiplexing the optical signals into a plurality of output optical signals (fig. 15, element A11). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multi-mode laser source and bus fiber as described above for claim 1.

Regarding claim 8, the combination of Sharma et al. and Kartalopoulos discloses a node according to claim 7, wherein said plurality of optical sources are capable of communicating with a network controller, wherein the network controller is capable of transmitting the plurality of input electrical signals to said plurality of optical sources (Sharma et al.: fig. 15, element A13).

Regarding claim 9, the combination of Sharma et al. and Kartalopoulos discloses a node according to claim 7 further comprising a plurality of optical detectors capable of receiving the plurality of output optical signals from said demultiplexer and thereafter generating a plurality of

output electrical signals from the plurality of output optical signals (Sharma et al.: fig. 15, elements A12).

Regarding claim 10, the combination of Sharma et al. and Kartalopoulos discloses a node according to claim 9, wherein the plurality of optical detectors of said receiving element are capable of transmitting the plurality of output electrical signals to a network controller (Sharma et al.: fig. 15, elements A12 and A13).

Regarding claim 11, the combination of Sharma et al. and Kartalopoulos discloses a node according to claim 7, wherein plurality of remote devices read and write optical signals having predefined optical wavelengths that are associated with the plurality of predetermined optical wavelengths of the optical input signals (Sharma et al.: fig. 15, elements C1-Cn).

Regarding claim 12, Sharma et al. disclose a method of transmitting a plurality of optical signals over a network bus in a closed-loop network system (fig. 15, element A1 and col. 8, line 59 to col. 9, line 56), said method comprising the steps of: transmitting a plurality of input optical signals via the network bus, wherein transmitting comprises wavelength division multiplexing the plurality of input optical signals for transmission via the network bus such that the plurality of input optical signals have a plurality of predetermined optical wavelengths (fig. 15, elements A16, A14, A15 and A17); communicating with a plurality of remote devices optically connected to the network bus, wherein said communicating comprises reading optical signals having respective predefined optical wavelengths off of the network bus (fig. 15, elements C1-Cn); and receiving optical signals having at least one of the plurality of predetermined optical wavelengths from the network bus and thereafter wavelength division demultiplexing the optical signals into a plurality of output optical signals (fig. 15, elements A11 and A12). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multi-mode laser source and bus fiber as described above for claim 1.

Regarding claim 13, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 12, wherein communicating further comprises writing optical signals having respective predefined optical wavelengths onto the network bus (Sharma et al.: fig. 15, elements lambda 1-n and 1'-n').

Regarding claim 14, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 13, wherein writing optical signals comprises writing optical signals having respective predefined optical wavelengths that are at least a subset of the plurality of predetermined optical wavelengths of the optical input signals (Sharma et al.: fig. 15, elements C1-Cn).

Regarding claim 15, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 12 further comprising generating the plurality of input optical signals from a plurality of input electrical signals, wherein said generating occurs before transmitting the plurality of input optical signals (Sharma et al.: fig. 15, elements A16 and A14).

Regarding claim 16, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 15 further comprising producing the plurality of input electrical signals before generating the plurality of input optical signals (Sharma et al.: fig. 15, element A13).

Regarding claim 17, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 12, wherein receiving further comprises generating a plurality of output electrical signals from the plurality of output optical signals after wavelength division demultiplexing the composite optical signal (Sharma et al.: fig. 15, elements A12).

Regarding claim 18, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 17, wherein generating the plurality of output electrical signals further

comprises transmitting the plurality of output optical signals to a network controller after generating the output electrical signals (Sharma et al.: fig. 15, elements A12 and A13).

Regarding claim 19, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 12, wherein communicating comprises reading optical signals having a plurality of predefined optical wavelengths that are at least a subset of the plurality of predetermined optical wavelengths of the optical input signals (Sharma et al.: fig. 15, elements C1-Cn).

Regarding claim 20, the combination of Sharma et al. and Kartalopoulos discloses a method according to claim 12, wherein receiving the optical signals comprises receiving the optical signals after transmission about a closed loop on the network bus from a transmitter to a receiver (Sharma et al.: fig. 15).

Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. (US Patent No. 5717795) in view of Kartalopoulos ("Introduction to DWDM Technology: Data In A Rainbow"; S.V. Kartalopoulos; IEEE Press, 2000; pages 41 and 42), and further in view of Polczynski (US Patent No. 4089584).

Regarding claim 21, Sharma et al. disclose an optical communications network (fig. 15 and col. 8, line 59 to col. 9, line 56) comprising: a closed-looped optical network system comprising: a fiber network bus for transmitting a plurality of optical signals (fig. 15, element B1); a multiplexer capable of wavelength division multiplexing a plurality of input optical signals for transmission via the network bus, wherein the plurality of input optical signals have a plurality of predetermined optical wavelengths (fig. 15, elements A14-A17); a plurality of remote devices optically connected to the network bus, wherein said plurality of remote devices are capable of reading optical signals having respective predefined optical wavelengths off of the network bus, and wherein said plurality of remote devices are further capable of writing optical signals having

respective predefined optical wavelengths onto the network bus (fig. 15, elements C1-Cn); and a demultiplexer capable of receiving optical signals having at least one of the plurality of predetermined optical wavelengths from the network bus and thereafter wavelength division demultiplexing the optical signals into a plurality of output optical signals (fig. 15, element A11). Sharma et al. do not explicitly disclose the fiber type of the fig. 15 embodiment; however Sharma et al. do disclose multi-mode transmission in another embodiment (col. 6, lines 40-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the multi-mode laser source and filter arrangement disclosed by Sharma et al. in the fig. 15 embodiment as well, since a multi-mode laser will be more affordable than a single-mode laser source. Kartalopoulos discloses that multimode fiber has the advantage of being easy to splice and to couple light into (page 42). It would have been obvious to one of ordinary skill in the art at the time of the invention to use multimode fiber in the system of Sharma et al. since it is easy to splice and to couple light into, as taught by Kartalopoulos. Sharma et al. do not disclose the network used for communications among different nodes within a vehicle, with the fiber and nodes disposed at least partially throughout said vehicle body. However, Polczynski disclose a closed-loop, multi-mode, plural node optical communication network used within vehicles (col. 1, lines 21-24; col. 3, lines 3-6; col. 4, lines 38-43), where inherently the network is disposed at least partially throughout the vehicle. Considering that it would have been obvious to one of ordinary skill in the art at the time of the invention that the components of the Sharma et al. optical network come in very small component sizes, it would have been further obvious to one of ordinary skill in the art at the time of the invention to use the network of Sharma et al. as an optical network within a vehicle, as taught by Polczynski, in order to provide the benefits immunity to electromagnetic interference and no need for radiation shielding for the vehicle, as disclosed by Polczynski (col. 1, lines 9-24).

Regarding claim 22, the combination of Sharma et al., Kartalopoulos and Polczynski discloses a vehicle according to claim 21, wherein said closed-loop optical network system further comprises a plurality of optical sources capable of generating the plurality of input optical signals from a plurality of input electrical signals (Sharma et al.: fig. 15, elements A14 and A16).

Regarding claim 23, the combination of Sharma et al., Kartalopoulos and Polczynski discloses a vehicle according to claim 22, wherein said closed-loop optical network system further comprises a network controller for at least partially controlling communications on the network bus within said vehicle body, wherein said network controller is capable of transmitting the plurality of input electrical signals to said plurality of optical sources (Sharma et al.: fig. 15, element 13).

Regarding claim 24, the combination of Sharma et al., Kartalopoulos and Polczynski discloses a vehicle according to claim 21, wherein said closed-loop optical network system further comprises a plurality of optical detectors capable of receiving the plurality of output optical signals from said demultiplexer and thereafter generating a plurality of output electrical signals from the plurality of output optical signals (Sharma et al.: fig. 15, elements A12).

Regarding claim 25, the combination of Sharma et al., Kartalopoulos and Polczynski discloses a vehicle according to claim 24, wherein the plurality of optical detectors of said closed-loop optical network system are capable of transmitting the plurality of output electrical signals to a network controller (Sharma et al.: fig. 15, elements A12 and A13).

Regarding claim 26, the combination of Sharma et al., Kartalopoulos and Polczynski discloses a vehicle according to claim 21, wherein the plurality of remote devices of said closed-loop optical network system read and write optical signals having respective predefined optical wavelengths that are at least subsets of the plurality of predetermined optical wavelengths of the optical input signals (Sharma et al.: fig. 15, elements C1-Cn).

(10) Response to Argument

<u>The arguments presented in the appeal brief arguments sub-section I.A, from page 5, line 28 to page 7, line 10, with respect to claims 1-20, are not persuasive to overcome the rejections.</u>

In this sub-section, the appellant states that Sharma does not teach or suggest a multimode network bus as claimed in claim 1. However, as already correctly noted by the appellant on appeal brief page 5, lines 13-14, the first, second and final office actions already conceded that Sharma does not disclose a multimode network bus. The multimode network bus limitation of claim 1 is read on by the combination of Kartalopoulos with Sharma, as described in the above rejection, not by Sharma alone. Therefore, sub-section I.A only reiterates what was already on the record and does not present an argument against the combination of Sharma and Kartalopoulos.

<u>The arguments presented in the appeal brief arguments sub-section I.B, from page 7, line 12 to page 10, line 7, with respect to claims 1-20, are not persuasive.</u>

In this sub-section, the appellant first correctly notes that Sharma does not explicitly define its network bus as either single mode or multimode fiber. Sharma discloses using optical fiber for its network bus without mentioning fiber type. The appellant argues, however, on page 7, lines 14-23 of the appeal brief, that Sharma nonetheless "suggests" that its network bus is single mode fiber on the basis that 1) Sharma mentions optical "telecommunications" and that 2) Sharma discloses optical circulators in figs. 8, 9 and 10.

Regarding 1), the appellant states "As is well known to those skilled in the art... optical telecommunication networks are most typically, if not exclusively, implemented using single mode waveguides". This reveals that the appellant's argument is not based on Sharma itself

actually suggesting single mode fiber, but rather that Sharma's mention of "optical telecommunications" should be interpreted to mean that Sharma uses single mode fiber in light of what appellant says is "well known to those skilled in the art". In fact, Sharma is silent as to fiber type, and uses the word "telecommunications" one time in the first paragraph of Sharma's "Description of the Related Art" in reference to optical WDM fiber ring systems being conventionally "proposed for optical telecommunications". However, page 42 of Kartalopoulos, cited in the rejection, describes the different applications of both single mode fiber and multimode fiber. Kartalopoulos describes characteristics of multimode optical fiber including that it is "easy to splice and to couple light into", and also that is can be used for optical transmission "up to 100 Mbps for lengths up to 40 km", among other characteristics. Further, the Kartalopoulos multimode fiber citation used in the rejection comes from chapter 3 of the Kartalopoulos reference (Kartalopoulos page 37). The opening sentence of Chapter 3 of Kartalopoulos says, "Fiber has become the transporting medium of choice for voice, video, and data, particularly for high-speed communications". This opening sentence is inarguably addressing the concept of "optical telecommunications". Therefore, since the citation of Kartalopoulous used in the rejections follows this opening sentence with a disclosure of the use of multimode fiber for optical transmission, the only logical conclusion is that Kartalopoulos considers the use of multimode fiber as within the field of optical telecommunications. Even so, returning to the wording of the appellant's argument, the bounds of the phrase "most typically, if not exclusively" in the appellants argument is vague; it does not mean the same thing as "exclusively" or "always". Therefore, even though Kartalopoulos already solidly places the use of multimode fiber within the field of "optical telecommunications", the appellant's own argument leaves open the possibility that "optical telecommunications" when viewed in light of what's "well known", does not imply single mode fiber 100% of the time

Regarding 2), the appellant states that optical circulators, such as those of Sharma figs. 8, 9 and 10, are primarily used with single mode waveguides. First, even if optical circulators did “primarily” suggest single mode fiber, the optical circulators of figs. 8, 9 and 10 are not associated with the embodiment of Sharma that is relied upon in the rejections of claims 1-20, namely the fig. 15 embodiment, and thus would not necessarily indicate single mode fiber for the fig. 15 embodiment. Second, the bounds of the word “primarily” in the appellant's argument are vague; it does not mean the same thing as “exclusively” or “always”. So, even though the rejections are actually based on the fig. 15 embodiment of Sharma, the appellant's own argument leaves open the possibility that Sharma's disclosure of “optical circulators” for figs. 8, 9 and 10, when viewed in light of what's “well known”, does not imply single mode fiber 100% of the time.

The appellant next asserts on page 8, lines 4-5 of the appeal brief that “the totality of the prior art suggests that the use of multimode fibers in telecommunications system is contrary to accepted wisdom in the art”. Kartalopoulos' disclosure nullifies this argument by being at least one piece of prior art that suggests multimode fibers used for optical telecommunications. The appellant cites five patents that associate the word “telecommunications” with single mode fiber, or that describe single mode fiber used often in telecommunications, or that describe multimode fiber as inferior to single fiber under certain vaguely described conditions like “high speed transmissions over a distance”. However, none of these patents serve to nullify Kartalopoulos, and a handful of patents do not constitute “the totality of the prior art”.

The appellant next argues on page 8, lines 20-26, that Kartalopoulos' disclosure of multimode fibers having a bandwidth of up to 100 Mbps for lengths up to 40 km “does not itself support [use of multimode fiber] in telecommunications systems, particularly without comparison to corresponding bandwidth and length characteristics of telecommunications systems”. Then,

on page 8, line 28 to page 9, line 15, the appellant claims that Kartalopoulos doesn't actually teach or suggest use of multimode fibers in telecommunications systems and only suggests using single mode fiber in telecommunications applications. The appellant attempts to show proof for this line of reasoning by associating the word "telecommunications" with speeds of 10 or 40 Gbps and lengths of 100 or 200 km, based on passages from Kartalopoulos that associate these speeds and lengths with the phrase "single mode", and that weakly associate the phrase "single mode" with the phrases "telecommunications companies", "many thousands of kilometers of fiber" and "telephone conversations". However, as already described above, when considering the citation of Kartalopoulos used in the rejections in context, the only logical conclusion is that Kartalopoulos considers the use of multimode fiber as applicable to the field of optical telecommunications, including using it for optical transmission at 100 Mbps for lengths up to 40 km. Even so, when one starts considering additional passages from Kartalopoulos, as the appellant has done, one should also note that Kartalopoulos elsewhere discloses that a WDM fiber ring (which is what Sharma is), "may cover a local or metropolitan area and span a few tens of kilometers" and "the bit rate may be 622 Mpbs or lower" (Kartalopoulos page 194, emphasis added). Coincidentally, Sharma's WDM fiber rings for "telecommunications", described in Sharma's "Description of the Related Art" section can now be related to the specifications of multimode fiber use via this additional passage of Kartalopoulos describing some of the specifications of WDM fiber rings. So even though the combination of Sharma and Kartalopoulos is proper in the rejections without a need for additional passages from Kartalopoulos, one can see that Kartalopoulos teaches a "telecommunications" WDM fiber ring like Sharma with multimode-compatible specifications.

The appellant next attempts to further discredit Kartalopoulos on page 9, lines 16-19, by citing additional references that associate the words and phrases "telecommunications", "single

mode", "long distance", "thousands of kilometers", etc. However, as before, when considering the citation of Kartalopoulos used in the rejections in context, the only logical conclusion is that Kartalopoulos considers the use of multimode fiber as applicable to the field of optical telecommunications, including using it for optical transmission at 100 Mbps for lengths up to 40 km. One compelling citation of the appellant is with respect to the reference Liou; the appellant states "Liou explains that although a LAN (local area network) may be either multimode or single mode, fiber for long distance applications such as telecommunications applications <u>must be</u> single-mode fiber" (emphasis added). However, the appellant's statement is misleading, because what Liou actually says is that single mode is required when extending the range of an optical communications system "upwards of 30 to 100 km" (see Liou, col. 1, lines 35-53). So Liou doesn't discredit Kartalopoulos because even Kartalopoulos doesn't seem to consider multimode for lengths beyond 40 km.

Even though Sharma is silent about fiber type, it's true that Sharma makes reference to "optical telecommunications" one time in the background section. The appellant has gone to great lengths to try and associate this phrase "optical telecommunications" in Sharma with a requirement of single mode fiber, using external references and argument. However, while the appellant's external references and argument do establish use of single mode fiber in optical telecommunications, advantages of single mode fiber in telecommunications, even the disuse of multimode fiber for optical telecommunications systems involving "thousands of kilometers", none of the appellants external references or arguments establish that Sharma's mere reference to "optical telecommunications" mandates that Sharma's entire disclosure is limited to single mode fiber, nor does the appellant persuasively discredit Kartalopoulos from speaking to Sharma's silence regarding fiber type with evidence of multimode fiber use in optical telecommunications, even WDM fiber rings.

<u>The arguments presented in the appeal brief arguments sub-section I.C, from page 10, line 7 to page 11, line 15, with respect to claims 1-20, are not persuasive.</u>

In this sub-section, the appellant first argues against modifying Sharma to include the multimode fiber disclosed by Kartalopoulos. However, the appellant's argument against this modification is that Sharma is "disclosed with reference to telecommunications systems, and the use of multimode fiber in telecommunications systems is contrary to accepted wisdom in the art". This argument is essentially a repeat of the argument from sub-section I.B, and is therefore not persuasive for the same reasons provided above.

The appellant next argues against the motivation statement for the combination of Kartalopoulos with Sharma, specifically, the motivation statement "It would have been obvious to one of ordinary skill in the art at the time of the invention to use multimode fiber in the system of Sharma et al. since it is easy to splice and to couple light into, as taught by Kartalopoulos". The appellant argues that "at least in so far as the telecommunications industry has implemented fiber optics, on balance, one skilled in the art would not be motivated to include the multimode fiber of Kartalopoulos in the telecommunications system of Sharma due to the ease of splicing and light coupling of multimode fiber". However, comparing the handful of patents provided by the appellant to Kartalopoulos (which is an introductory textbook on optical WDM technology), there is no basis for concluding that the appellant's selected patents establish the scope of how "the telecommunications industry has implemented fiber optics" as opposed to Kartalopoulos' disclosure for multimode fiber in optical telecommunications. Further, one of ordinary skill in the art would immediately recognize that the motivation for combining Kartalopoulos with Sharma speaks to the criticality of proper fiber splices and good light coupling in establishing a functional fiber optic system.

<u>The arguments presented in the appeal brief arguments sub-section II, from page 11, line 17 to page 12, line 10, with respect to claims 21-26, are not persuasive.</u>

In this sub-section, the appellant essentially argues that the combination of Sharma, Kartalopoulos and Polczynski does not read on the claims "for at least the same reasons given above with respect to independent claim 1". This argument is essentially a repeat of the argument from sub-section I.B, and is therefore not persuasive for the same reasons provided above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Nathan Curs

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